

Figure 1:

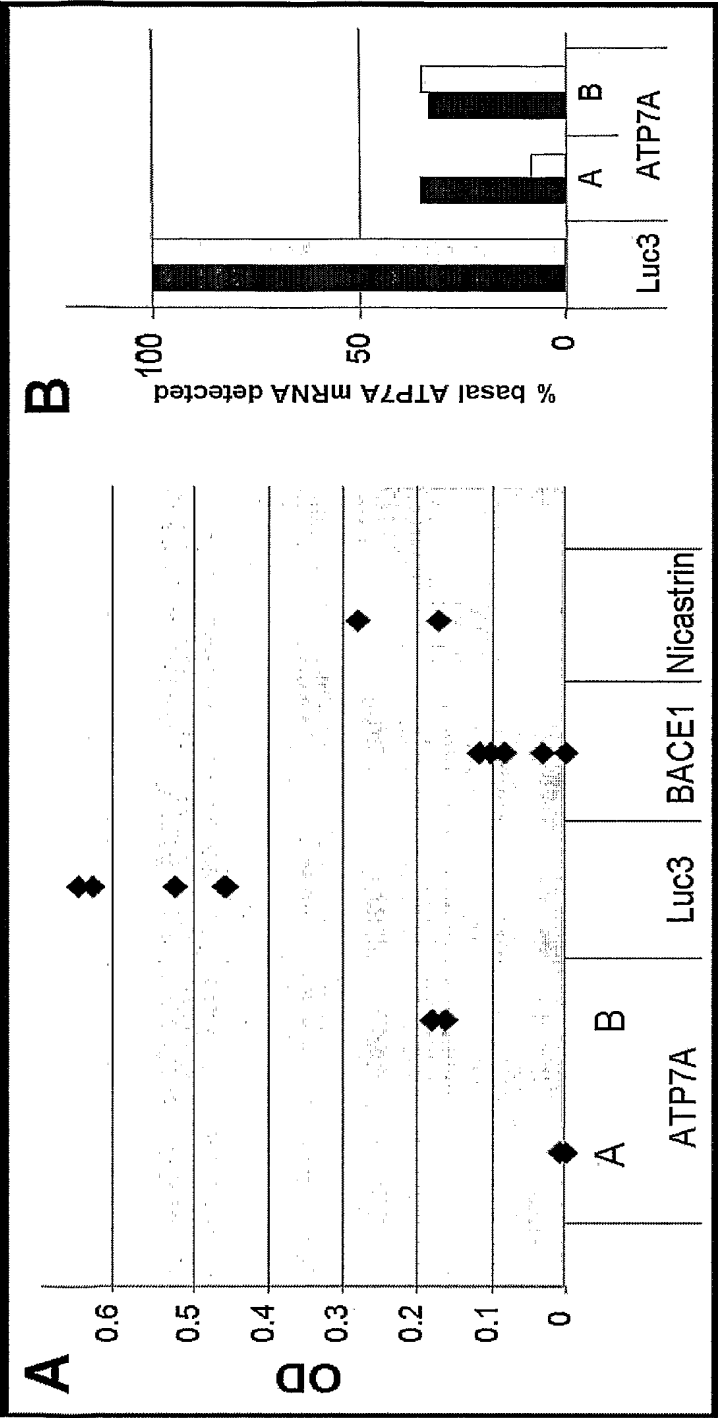


Figure 2:

MRKLSIRKRD	NNLLKPSSAS	SLGIAVSLGR	PVLSRSSSGT	VNLLEEVGLH
IRDTAFSSTK	LLEAISTVSA	QVEELAVHNE	CYDPSMGVNS	VTISVEGMC
NSCVWTIEQQ	IGKVNGVHHI	KVSLEEK NAT	IIYDPKLQTP	CTLQEAIDDM
GFDAVIHNP	PLPVLDTL	LTVTASLTLP	WDHIQSTLLK	TKGVTDIKIY
PQKRTVAVTI	IPSIVNANQI	KELVPELSLD	TGTLEKKSGA	CEDHSMAQAG
EVVLKMKVEG	MTCHSCTSTI	EGKIGKLQGV	QRIKVSLDNQ	EATIVYQPHL
ISVEEMKKQI	EAMGFPAFVK	KQPKYLKLGA	IDVERLKNT	VKSSEGSQQR
SPSYTNDSTA	TFIIDGMHCK	SCVSNIESTL	SALQYVSSIV	VSLENRSAIV
KYNASSVTPE	SLRKAIEAVS	PGLYRVSITS	EVESTSNSPS	SSSLQKIPLN
VVSQPLTQET	VINIDGMTCN	SCVQSIIEVI	SKKPGVKSIR	VSLANSNGTV
EYDPLLTSP	TLRGAIEDMG	FDTLSLTNE	PLVVIAQPSS	EMPLLTSTNE
FYTKGMTPVQ	DKEEGKNSSK	CYIQVTGMT	ASCVANIERN	LRREEGIYSI
LVALMAGKAE	VRYNPAVIQ	PMIAEFIREL	GFGATVIENA	DEGDGVLELV
VRGMTASC	HKIESSLTKH	RGILYCSVAL	ATNKAHIKYD	PEIIGPRDII
HTIESLGFEA	SLVKKDRSAS	HLDHKREIRQ	WRRSFLVSLF	FCIPVMGLMT
YMMVMDHHFA	TLHHNQNM	SK	FLERQILPGL	SVMNLLSFL
CVPVQFFGGW	YFYIQAYKAL	KHKTANMDVL	IVLATTIAFA	YSLIILLVAM
YERAKVNPIT	FFDTPPMLFV	FIALGRWLEH	IAKGKTSEAL	AKLISLQATE
ATIVTLDSN	ILLSEEQVDV	ELVQRGDIK	VVPGGKFPVD	GRVIEGHSMV
DESLITGEAM	PVAKKPGSTV	IAGSINQNGS	LLICATHVGA	DTTLSQIVKL
VEEAQTSKAP	IQQFADKLSG	YFVPFIVFVS	IATLLVWIVI	GFLNFEIVET
YFPGYNRSIS	RTETIIRFAF	QASITVLCIA	CPCSLGLATP	TAVMVGTVG
AQNGILIKGG	EPLEMAHKVK	VVVFDTGTI	THGTPVVNQV	KVLTESNRIS
HHKILAIVGT	AESNSEHPLG	TAITKYCKQE	LDTETLGT	DFQVVP
SCKVTNIEGL	LHKNNWNIED	NNIKNASLVQ	IDASNEQSST	SSSMIIDAQI
SNALNAQQHK	VLIGNREWMI	RNGLVINNDV	NDFMTEHERK	GRTAVLVAVD
DELCGLIAIA	DTVKPEAELA	IHILKSMGLE	VVLMTGDNSK	TARSIASQVG
ITKVFAEVLP	SHKVAKVKQL	QEEGKRVAMV	GDGINDSPAL	AMANVGIAIG
TGTDVAIEAA	DVVLIRNDLL	DVVASIDL	KTVKRIRINF	VFALIYNLVG
IPIAAGVFMP	IGLVLPWMG	SAAMAASSVS	VVLSSLFLKL	YRKPTYESYE
LPARSQIGQK	SPSEISVHVG	IDDTSRNSPK	LGLLDRIVNY	SRASINSLLS
DKRSLNSVVT	SEPDKHSLLV	GDFREDDDTA	L	

Figure 3:

ATP7A MRKLSIRKRDNNLLKPSASSLGIAVSLGRFVLSRSSSTVNNLLEEVGLHIRDITAFSSSTKLEAISTVSAQVEELAVHNE
 ATP7B -----MFEQERQITAREGAS-----RKILSKLSLPR-----AWPEPAMKKSFAFDNVGYEGG-----LD
 Consensus/80%b.cp-pplh..ptAS.....R.LLS+.S.st.....hb-sAbpp*bhb-slth.tt.....-

ATP7A CYDTSMGVNSVTISVEGMCNCSVWLEQQIKGVNGVHHIKVSLEEKNAITLYD*KLQTPKTLQEAIDDMGFDAVIHNP
 ATP7B GLGSSQVATSTVRILGMTCSQCVKSTEDRISNLKGLIISMKVSLEQDSATVKYVSVVCLQQVCHQIGDMGFEEASTA---
 Consensus/80% sbsPS..Vs*sTlplbGMTCPsCVb*IeppItlplGlbbpKVSLEpCsATlbYsPpl.s.pplpc.IsDMGF-AsIh...

ATP7A PLFVLTDTLFTVTASLTLPWDHIQSTLLKTKGVTDIKIYPQKRTVAVTIIPSIVNANQIKELVPELSLDTGTLEKKS
 ATP7B -----EKKAAAS-----
 Consensus/80%E.Kttt

ATP7A CEDHSMAGAGEVVLKMKVEGMCCHSCTSTIEGKIKLQGVORIKVSLDNOEATIVYQHLISVEEMKKQIEAMGFPFV
 ATP7B WPSRSLP-AQHAVVLRVEGMCQSCVSSIEGKVRKLQGVVRVKVSLNQEAIVTYQ*YLIQPEDLRDHVNDMGFEAAIK
 Consensus/80% h.s+Sbs.A.EsVlKb+VEGMCPCsCS*IEGK1.KLQGV.RlKVSLNQEAsIsYQPaLIpsE-b+cpIpsMGF.Ah1K

ATP7A KQPKYIKLGAIDVERLKN*---VKSSSEGSQQRSPSYTND*---TATFLIDGMHCKSCVSNIESTLSALQVSSIVS
 ATP7B SKVAPLSLGPIDIERLQSTNPKRLSSANQNFNSETLGHQGSVVTLQLRIDGMHCKSCVSNIEENIGQLLGQSTOVS
 Consensus/80% pps...LpLGSIDIERLpsT....PlpStp.sbpss.*bsppt....ThpbIDGMHCKSCV.NIEpslt.LbhVpSI.VS

ATP7A LENRSALVKYNASSVT*ESIRKATEAVS*GLYRVSTSEVES--TSNPSSSSLQKI*LNVSQPLTOETVINIDGMTCN
 ATP7B LENKTAQVKYDPSCTS*VALQRAIEALP*GNFKVSLPDGAGSGTDHRSSSSSHPGS*PRNQVGGTCSTLLIATAGMTCA
 Consensus/80% LEN+*AbVKYssSss*P.tLp+AIeAlSPG.a+VSIs.sEt..TsppsSSSp....P.ps.sQshsppTlIsGMTCS

ATP7A SCVOSTIEGVTISKKPCVKSRVSLANSNGTVEYD*LLTS*ETLIGATEDMGEDATLSDTNEPLVVIAQPSSEMPLITSTN-
 ATP7B SCVHSIEGHTSOLGVOQISVSLAGTAIVLYN*SVIS*EELRAATEDMGFEASVVSSECSCTNPLGNHAGNSMVQTDG
 Consensus/80% SCVPSTIEGHTSb.GVppIpVSLAptstTVbYsP.lhSPEpLrTAIEDMGF-A*Isspspsshslltp.St..sblp*TS

ATP7A -EFYTKGMT*VODKEEGKNS-----SKCYIQVTGMTCASCVANIERNLRR*EGIYSILVALMAGKAEVR
 ATP7B TPTSVQEVAA*HTGRLPANHAPDILAKSPQSTRAVAPQKCFLOIKGMTCASCVSNIERNLQKAGVLSVLVALMAGKAEIK
 Consensus/80% ..h.sp.hsPhps+b.tppt.....pKCa1QlpgMTCASCvtNIERNLp+E.GlbS1LVALMAGKAE1+

ATP7A YN*AYIQ*PMIAEFIRELGFCA*TVIENADEGDGVLELVVRGMTCASCVEKTESSLT*KKRGILYCSVALATNKAHIKYD*E
 ATP7B YD*EVYQ*LEIAQFIQDGFEEAAMVEDYAGSDGNIETITIGMTCASCVNIESKLTIRNGITVYASVALATSKALVFD*E
 Consensus/80% YsP.VIQP.bIApFip-LGF.AsVbEshs.tdGslELSLpGMTCASCVHpIESpLT+ppGIhYsSVALATsKAb1KADPE

ATP7A ITIG*RDIIHTTESLGF*EASLVKKDRSASHLDHKREITQWRRSFLVSLFFCT*VMGLMTYMMVMDHFFATLHHNNQMSKEE
 ATP7B ITIG*RDILKITEETGFHASLAQRNPNAHLHDHREIKQWKKSLFCSLVFGT*VMALMIYMLIPSN-----
 Consensus/80% ITIGPRDII+IEp1GFcASLsp+s.sApHLDHKEI+QW++SFLsSLhFsIPVMTLMhYmb1.sp.....

ATP7A MINLHSSMFLERQIL*GLSVMNLLS*FLLQVPVQFFGGWYFYIQAYKALKKHTANMDVLIVLATITIAFAYSHTILLVAMYB
 ATP7B ..EPHOSMVDHNI*GLSILNLIF*LICTFVOLLGOWYFYVQAYKSLRRRSANMDVLIVLATISYVSLVILVAVAYE
 Consensus/80% ..p.HpSMhL-+p1LPLSLbNL1.FILCs.VqbbGGWYFY1QAYKtL+H+*ANMDVLIVLAT*IAasySL1L1LVAhHe

ATP7A RAKVN*ITTFEDT*MLFVFIALGRWLEHIAKGTSEALAKLISLQATEATIVTLDSDNILLSEEQVDVELVORGDIIVKV
 ATP7B KAERS*VITFEDT*MLFVFIALGRWLEHLAKSTSEALAKLMSLQATEATVVTLGEDNLTIREEQVPMELVORGDIIVKV
 Consensus/80% +Ac.sP1ITFEDTPMLFVFIALGRWLEHIAKT*STSEALAKLbSLQATEATIVTLspDN11lpEEQVshELVORGDIIVKV

ATP7A GGGK*VDGRVIEGHS*VDESITIG*EAM*VAKK*GSTVIA*CSINONGSLICATHVGADTTLSQIVKLVEEAQTSKA*IQ
 ATP7B GGGK*VDGKVLGNTMADESITIG*EAM*VTKK*GSTVIA*RSINAHGSVLIKATHVGN*TTLAQIVKLVEEAQMSKA*IQ
 Consensus/80% PGKGFPVDG+VLEp*MsDESITIG*EAM*VKKPGSTVIA.SIN.pGS1L1pATHVGsD*TTLTQIVKLVEEAQSKAPIQ

ATP7A QFADKLSGYFV*F1FVFSIATLLVWIVIGELNFEIVET*GYNRSISRTETIIRFAFQASITVLCIAC*CSLGLAT*TA
 ATP7B QLADRFGGYFV*F1LIMSTLTLVWVIGFIDFGVVOKYF*NPKNHISQTEVIRFAFQTSITVLCIAC*CSLGLAT*TA
 Consensus/80% QbAD+DSGYFVFF1bShhTLLVWVIGF1sF.lVpyYFPs.N+piSpTEsIIRFAFQsSITVLCIACPCSLGLATPTA

ATP7A VMVGTGVGAONGILIKGGE*LEMAHKV*VVFDTGTITHT*VYNQVKLTESNRISHHKILAVGTAEASNEH*LGTA
 ATP7B VMVGTGVGAONGILIKGCK*LEMAHKIKTVMTKGTITHTGV*RVMRVLLGDVATLPLRKVLAVVGTAEASNEH*LGVA
 Consensus/80% VMVGTGVTAONGILIKGGC*PLEMAHK1ksVhFDKGTITHTGSP.V.pVb1Ls-ssplsb+K1LALVGTAEtsSEHP1GSA

ATP7A ITKYCKQLD*FETLGTCTDFQVY*CGGISCKV*INIEGLHKNNWNIEDNNIKNASLVQIDASNEQSSSTSSSMIIDAQISN
 ATP7B VTKYCKEELGT*ETLGYCTDFQAV*CGGIGCKVSNVEGILAHs-----ERELSPASHLNEAGSLPAEKDAPV--
 Consensus/80% lTKYCKpELsTETLGHchDFQsVPGGICCKV*NEGLLh+s.....p.lphsASpbpptsS.shbbaDA...

ATP7A ALNAQQH*KLIGNREWMIRNGLVINNDVDFMT*HERKGR*TAIVLAVDDEL*CGLLTAIADTVKFEALATHILKSMGLEVV
 ATP7B -----QTFSVLIGNREWLRRNGLTISSDVSDAMTDHEMKGTAILVAIDGVL*CGMTAIAADAVKQEAALAVHTLOSMGVVV
 Consensus/80%QpapVLIGNREWBbRNGLSIssDVsDhMT-HEbKGP*TAILVALDs.LCGbIAIADSVK.EA.LAlHhLpSMG1-VV

ATP7A LMTGDN*SKTARSIASQVGI*TKVFAEVL*SHKVAKVQLQEEGKRVAMVGDGINDS*ALAMANVGIAIGTGTDAIEAADV
 ATP7B LITGDN*RKTAARAIA*QVGLINKVFAEVL*SHKVAKVQLQNGKRVAMVGDGINDS*ALAQADMVGAIGTGTDAIEAADV
 Consensus/80% LbTGDnPKTARTIA*QVGIsKVFAEVLPSHKVAKVppLQpcGK+VAMVGDGINDSPALAbAshG1AIGTGTDAIEAADV

ATP7A VLIRNDLLDVVASIDLSRKTVKRIRIN*VFALYNL*VGI*IAAGVFM*IGLVLO*WMGSAAMAASSVSVLSSSLFLKLYR
 ATP7B VLIRNDLLDVVASIHL*SKRTVRRIRIN*VLALYNL*VGI*IAAGVFM*IGLVLO*WMGSAAMAASSVSVLSSSLQLKCYK
 Consensus/80% VLIRNDLLDVVASICLS++TV+RIRINbVdALIYNL*VGIPIAAGVFMPIG1VLQPMGSAAMAASSVSVLSSSLbLKhY+

ATP7A K*TYESYELP*ARSQIGQKSPSEISVHVGIDDT*SN*KLGLLDRVINYSRASINSILSDK*SLNSVVTSEP-DKHSLLVG
 ATP7B K*DLERYEAOAHGHMKPLTASQVSVHIGMDRWRDS*RAFWDQVSVYSQVLSL*TSKPSRHSAAADDGDKWLLLN
 Consensus/80% KPsbEpYeh.A+tpb..b*sSp1SVH1GbDDp.RsSP+hs.bDpls.hSpS1sSLhSDK.SbpSssss-s.DKASLL1s

ATP7A DFFREDDTAL
 ATP7B GRDEEQVI--
 Consensus/80% sbcE-p.h..